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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,832	03/22/2006	Yusuke Konagai	YAMA:123	9260
37013 7590 02/15/2008 ROSSI, KIMMS & McDOWELL LLP. P.O. BOX 826 ASHBURN, VA 20146-0826			EXAMINER PAUL, DISLER	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 02/15/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,832	Applicant(s) KONAGAI, YUSUKE	
	Examiner Disler Paul	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/22/06, 8/14/06, 10/17/2007</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Eberbach (US 7,092,541 B1).

Re claim 1, Eberbach disclose of the directional speaker control system adapted to an audio surround system in which a sound emitted from a directional speaker having sharp directivity is reflected on a wall surface or a sound reflection board so as to produce a virtual speaker, said directional speaker control system comprising: a first directional speaker for emitting a first sound toward the wall surface or sound reflection board (fig.1 wt (46,52), fig.3; col.8 line 28-35); and a second directional speaker for emitting a second sound which comes to have an inverse phase at a prescribed listening position with respect to an audio element of the first sound reaching the prescribed listening position directly (fig.1 wt (34,36), fig.3, col.8 line 15-21, col.3 line 48-51, col.10 line 48-50 & line 38-44), wherein a

Art Unit: 2615

directivity of the first directional speaker is corrected using the second sound (fig.23-24, col.14 line 10-15 & line 40-47/amplitude and phases of the surround channels must matched that of direct to produce null signals).

Re claim 2, the directional speaker control system according to claim 1, wherein the first directional speaker and the second directional speaker are constituted using array speakers (fig.1,3,5).

3. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberbach (US 7,092,541 B1) and further in view of Aarts et al. (US 6,791,519 B2)..

Re claim 3, the directional speaker control system according to claim 1, However, Eberbach fail to disclose of the wherein the first directional speaker and the second directional speaker are realized by dividing a single array speaker. But, Aart et al. disclose of a 2D loudspeaker array wherein the first directional speaker and the second directional speaker are realized by dividing a single array speaker (col.3 line 25-32/first and second directional array speaker as corresponding left and right channel arrays) for creating stereophonic signals sound. Thus, taking the combined teaching of Eberbach and Aart et al. as a whole, it would have been obvious for one of the ordinary

Art Unit: 2615

skill in the art at the time of the invention to have modify Eberback by incorporating the the first directional speaker and the second directional speaker are realized by dividing a single array speaker for creating stereophonic signals sound.

RE claim 4, Eberbach disclose of the directional speaker control system according to claim 1, wherein the second directional speaker emits a combination of varying frequencies range of low and high sound as the second sound (fig.7 wt (82,86), col.19 line 15-25). However, Eberback fail to disclose of the emitting only a low frequency range sound as the second sound. However, official notice is taken the concept of emitting only a low frequency range sound as the second sound is simply the inventor's preference, thus it would have been obvious for one of the ordinary skill in the art to have modify Eberback by incorporating the emitting only a low frequency range sound as the second sound for augmenting the surround channels during playback.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DP


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER